

## CLAIMS

What is claimed is:

1. A dynamic spacer for measuring the flexion and extension gaps during knee arthroplasty, the dynamic spacer comprising: a first planar member having a lower tissue engaging surface and an upper tensioning surface, a second planar member having an upper tissue engaging surface and a lower tensioning surface, and a tensioning means for applying a tensile force acting upon said first and said second planar members, said tensioning means fixedly attached to said upper tensioning surface of said first planar member and said lower tensioning surface of said second planar member.
2. The dynamic spacer of claim 1, further comprising a means for measuring the distance between said lower tissue engaging surface of said first planar member and said upper tissue engaging surface of said second planar member.
3. The dynamic spacer of claim 2, wherein said means for measuring the distance between said lower tissue engaging surface of said first planar member and said upper tissue engaging surface of said second planar member comprises an opto-microelectronic device.
4. The dynamic spacer of claim 3, wherein said opto-microelectronic device comprises digital output means for displaying and recording the distance between said lower tissue engaging surface of said first planar member and said upper tissue engaging surface of said second planar member.
5. The dynamic spacer of claim 2, further comprising a means for measuring the angulation of said second planar member as it deviates from parallel with respect to said first planar member.

6. The dynamic spacer of claim 5, wherein said means for measuring the angulation of said second planar member as it deviates from parallel with respect to said first planar member comprises an opto-microelectronic device.

7. The dynamic spacer of claim 1, wherein said tensioning means comprises a plurality of 5 compressive coil-type springs.

8. The dynamic spacer of claim 1, wherein said tensioning means comprises a plurality of segmental cylindrical spring housings each having an upper section and lower section, said lower section fixedly attached to said upper tensioning surface of said first planar member and said upper section fixedly attached to said lower tensioning surface of said second planar member, each of said 10 plurality of segmental cylindrical spring housings encapsulating a compressive coil-type spring, said upper section of said segmental cylindrical spring housing having a first diameter and said lower section of said segmental cylindrical spring housing having a second diameter smaller than said first diameter of said upper section, and said lower section of said segmental cylindrical spring housing capable of being slidingly engaged within said upper section of said segmental cylindrical spring 15 housing.

9. The dynamic spacer of claim 8, wherein said lower section of said segmental cylindrical housing comprises graduated indicia for measuring the distance between said lower tissue engaging surface of said first planar member and said upper tissue engaging surface of said second planar member.

10. The dynamic spacer of claim 9, further comprising a means for measuring the angulation of said second planar member as it deviates from parallel with respect to said first planar member.
11. The dynamic spacer of claim 10, wherein said means for measuring the angulation of said second planar member as it deviates from parallel with respect to said first planar member comprises
- 5 a positioner, said positioner fixedly attached to said lower tensioning surface of said second planar member, and a graduated gauge fixedly attached to said upper tensioning surface of said first planar member such that said positioner varies its position relative to said graduated gauge upon said second planar member's deviation from parallel with respect to said first planar member.